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IS 4696-2 (2004): Dimensions for saw tooth threads, Part II: Pitch diameter combinations [PGD 20: Engineering Standards]



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भारतीय मानक
मीट्रिक बट्रेस चूड़ियों के लिए आयाम
भाग 2 चूड़ी-अन्तराल व्यास संचयन
(दूसरा पुनरीक्षण)

Indian Standard
DIMENSIONS FOR METRIC BUTTRESS THREADS
PART 2 PITCH DIAMETER COMBINATIONS
(*Second Revision*)

ICS 21.040.10

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FOREWORD

This Indian Standard (Part 2) (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Engineering Standards Sectional Committee had been approved by the Medical Instruments, General and Production Engineering Division Council.

This standard was first published in 1968 and subsequently revised in 1976 splitting up into four parts. The other parts in this series are:

- (Part 1) : 1976 Basic and design profile
- (Part 3) : 1976 Basic dimensions
- (Part 4) : 1976 Tolerancing system

The title of the standard in general has also been modified in line with DIN 513.

The earlier edition of this standard (Part 2) was in line with DIN 513 (Part 2)-1975. In the preparation of this revision considerable assistance has been derived from latest edition of DIN 513 Sheet 2-1985 'Metrisches Sägewinde, Gewindereihen (Metric buttress threads, general plan)', issued by DIN, Deutsches Institut für Normung and has been brought in line with it.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off the numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***DIMENSIONS FOR METRIC BUTTRESS THREADS****PART 2 PITCH DIAMETER COMBINATIONS***(Second Revision)***1 SCOPE**

This standard (Part 2) covers a series of pitch and diameter combinations for metric buttress threads in the diameter range of M 10 to M 640 mm.

2 DIAMETERS AND PITCHES

2.1 The order of preference for selection of diameters and pitches shall be as follows.

2.1.1 Diameters

- a) First choice diameters,
- b) Second choice diameters, and
- c) Third choice diameters.

2.1.2 Pitches

Pitches in boxes shall be preferred.

2.2 If pitches other than indicated in Table 1 are required, one of the pitches associated with the next higher diameter may be chosen. In any case, third choice diameter shall not be used for new design.

3 PITCH DIAMETER COMBINATIONS

The pitch diameter combination shall be as given in Table 1.

4 DESIGNATIONS

4.1 Single start metric buttress threads conforming to this standard shall be designated by the letter 'ST' followed by the value of the nominal diameter and pitch expressed, in millimetres, and separated by the sign 'x'¹⁾.

Example:

Single start threads of nominal diameter 40 mm and pitch 7 mm shall be designated as:

ST 40 × 7

4.2 Multiple start metric buttress threads conforming to this standard shall be designated by the letter 'ST' followed by the value of the nominal diameter and lead of the multiple start threads, separated by the sign 'x' and in brackets the letter 'P' and the value of the pitch (diameter between two neighbouring ridges), all expressed in millimetres.

Example:

Double start threads of nominal diameter 40 mm, lead 14 mm and pitch 7 mm shall be designated as:

ST 40 × 14 (P 7)

(Numbers of starts = $\frac{\text{Lead}}{\text{Pitch}} = \frac{14}{7}$ defines a screw thread of 40 diameter with 2 Start).

¹⁾ For buttress threads with no tolerance indication, the medium tolerance quality shall apply (tolerance zone 7e for external threads and 7H for internal threads. If a different tolerance zone is required, this shall be indicated; the designation for external threads of tolerance zone 8e shall then be read as 'ST 40 × 7 – 8e'.

Table 1 Pitch Diameter Combinations for Metric Buttress Threads
(Clauses 2.2 and 3)

All dimensions in millimetres.

Nominal Diameter, <i>d</i>			Pitches																				
First Choice	Second Choice	Third Choice	44	40	36	32	28	24	22	20	18	16	14	12	10	9	8	7	6	5	4	3	2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
10 12	14																					3 3 3	2 2 2
16 20	18																				4 4 4		2 2 2
24	22 26																8 8 8			5 5 5		3 3 3	
28 32	30														10 10		8		6 6	5		3 3 3	
36	34 38														10 10 10				6 6			3 3 3	
40 44	42														10 10			7 7 7				3 3 3	
48	46 50													12 12 12			8 8 8					3 3 3	
52 60	55												14 14	12		9 9	8					3 3 3	
70	65 75											16 16 16			10 10 10						4 4 4		
80 90	85										18 18	16		12 12	10						4 4 4		
100	95	105								20 20	18			12 12 12							4 4 4		
120	110	115							22 22	20			14 14	12					6 6		4		
	130	125 135							22 22				14 14 14						6 6 6				
140	150	145						24 24 24				16 14							6 6 6				
160		155 165					28 28	24				16 16 16							6 6 6				

Table 1 (Concluded)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
180	170	175					28 28 28					16 16					8 8		6				
	190	185 195				32 32 32					18 18 18						8 8 8						
200											18						8						
220	210				36 36					20 20							8 8						
240	230				36 36					20							8 8						
	250			40						22 22				12									
260				40						22				12									
280	270			40 40					24 24					12 12 12									
300	290		44						24					12									
	320		44						24					12									
340			44											12									
380	360													12 12 12									
420	400													12									
	440										18 18												
460											18												
500	480										18 18												
540	520							24 24 24															
	560							24															
580								24															
620	600							24 24 24															
	640							24															

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Amendments Issued Since Publication

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